

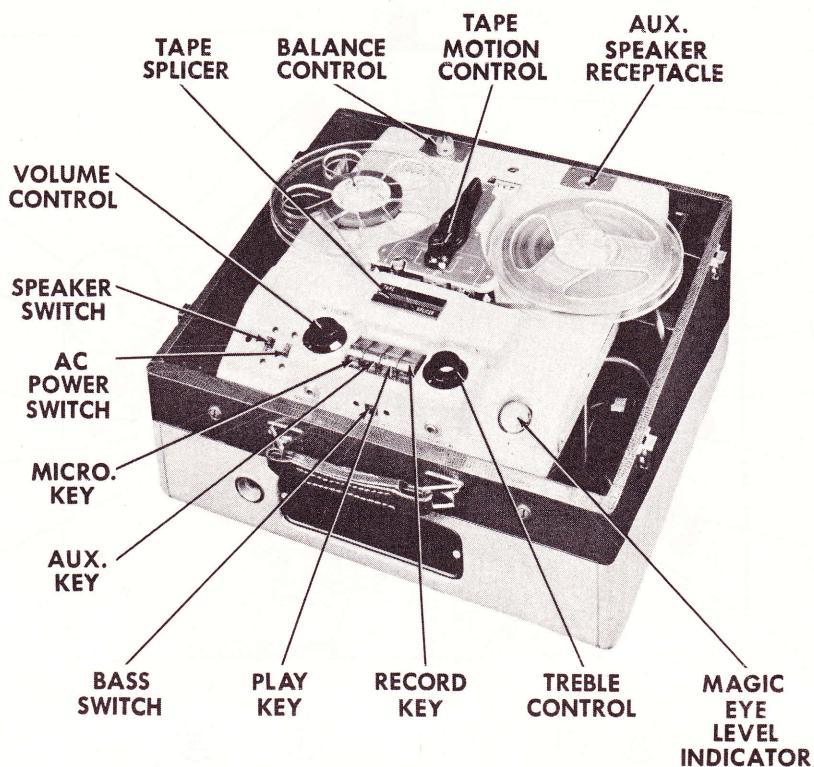
DUKANE
MODEL 11A200DUKANE
MODEL 11A200

Figure 1

GENERAL INFORMATION

The DuKane "Tru-Fidelity Model 11A200 Tape Recorder incorporates a single control which operates the following mechanical functions: Fast Forward, Forward, Off, and Rewind. Four pushbuttons control the amplifier functions for play and record modes of operation.

The DuKane is designed to record and playback two tracks of material on standard width recording tape, which doubles the playing time of a 5" or 7" reel, with no loss of frequency response or quality. Recordings can be made from a radio, television receiver or phonograph, in addition to those made directly from the microphone. Recordings can be played back through the self-contained speaker or an external speaker through use of the Auxiliary Speaker Jack.

This recorder has two tape speeds, 7 1/2" and 3 3/4" per second. Using both tracks of the tape, the recording time is as follows:

Size Reel	Speed 3 3/4"	Speed 7 1/2"
5"	1 hour	1/2 hour
7"	2 hours	1 hour

Model 11A200 is designed to operate on 60 cycle, 105-125 volts AC supply only.

CAUTION: Severe Damage Will Result If Connection Is Made To A Direct Current (DC) Line.

Manufactured by:
DuKane Corporation
St. Charles, Illinois

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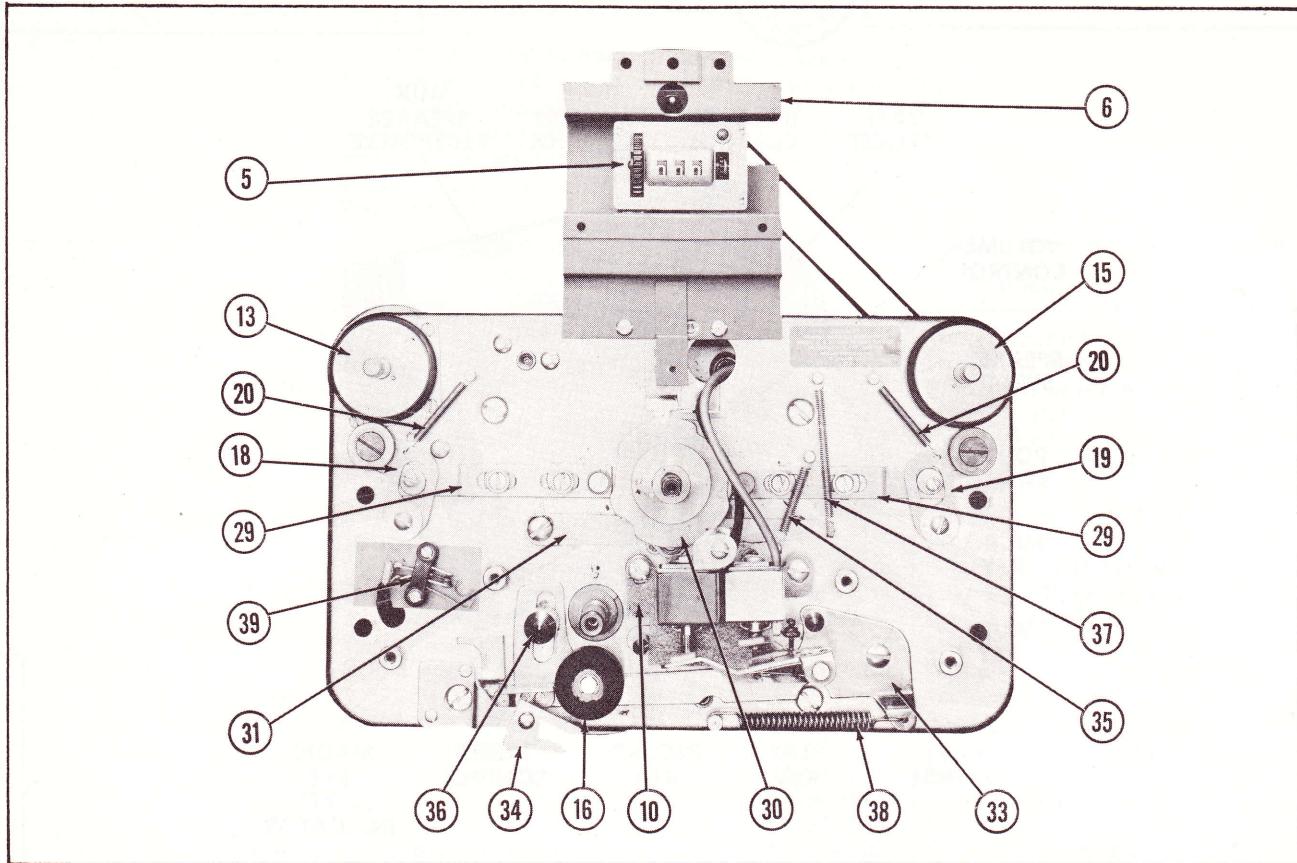


Figure 2

SPECIFICATIONS

Rewind Time-

Full 7" reel - 80 seconds

Fast Forward Time-

Full 7" reel - 100 seconds

Frequency Response - Pre-Amplifier-

At 3 3/4" per second \pm 1 1/2db 50 to 7500 CPS.
At 7 1/2" per second \pm 1 1/2db 50 to 10,000 CPS.

Signal To Noise Ratio-

Recording from microphone - 55db
Distortion less than 1%

Frequency Response - Booster Amplifier-

Flat except in the Series of Serial 6000 which is down approximately 4db at 50 cycles.

Overall Distortion - Pre-Amp. And Booster-

Less than 5% at 5 Watts.

Inputs-

Microphone, Auxiliary, and Public Address.

Outputs-

Phones-High Impedance, Auxiliary Speaker - 8 ohms.

OPERATING INSTRUCTIONS

Preparing The Recorder For Use-

1. Remove the power cord from the storage compartment and plug it into a 115 volt, 60 cycle, AC outlet. Slide the switch marked "Power" up to the "on" position exposing the white dot and the Pilot Light will glow.

2. Select the desired recording speed by lifting the knurled capstan sleeve (64) straight up and off the capstan shaft for 3 3/4" speed or allow it to remain on the shaft for 7 1/2" speed. If the capstan sleeve (64) is removed, place it immediately in the "Capstan Storage" well.

Threading The Tape-

1. Place a reel of tape on the right hand spindle and an empty reel on the left hand spindle making sure the reel slots engage the reel pin on the spindles.

2. Unwind about 18" of tape from the reel. Hold a section of tape straight with both hands and drop the tape in the tape slot making sure the dull coated side of the tape faces the rear of the recorder.

NOTE: This recorder uses Type "A" wound tape, i.e. the dull magnetic coated side faces inward on the reel. If the tape to be used is Type "B" (coated side facing outward) the recording will be made at a very low sound level and the playback will almost be inaudible. To change Type "B" to Type "A" wind, rewind the tape in a half twist.

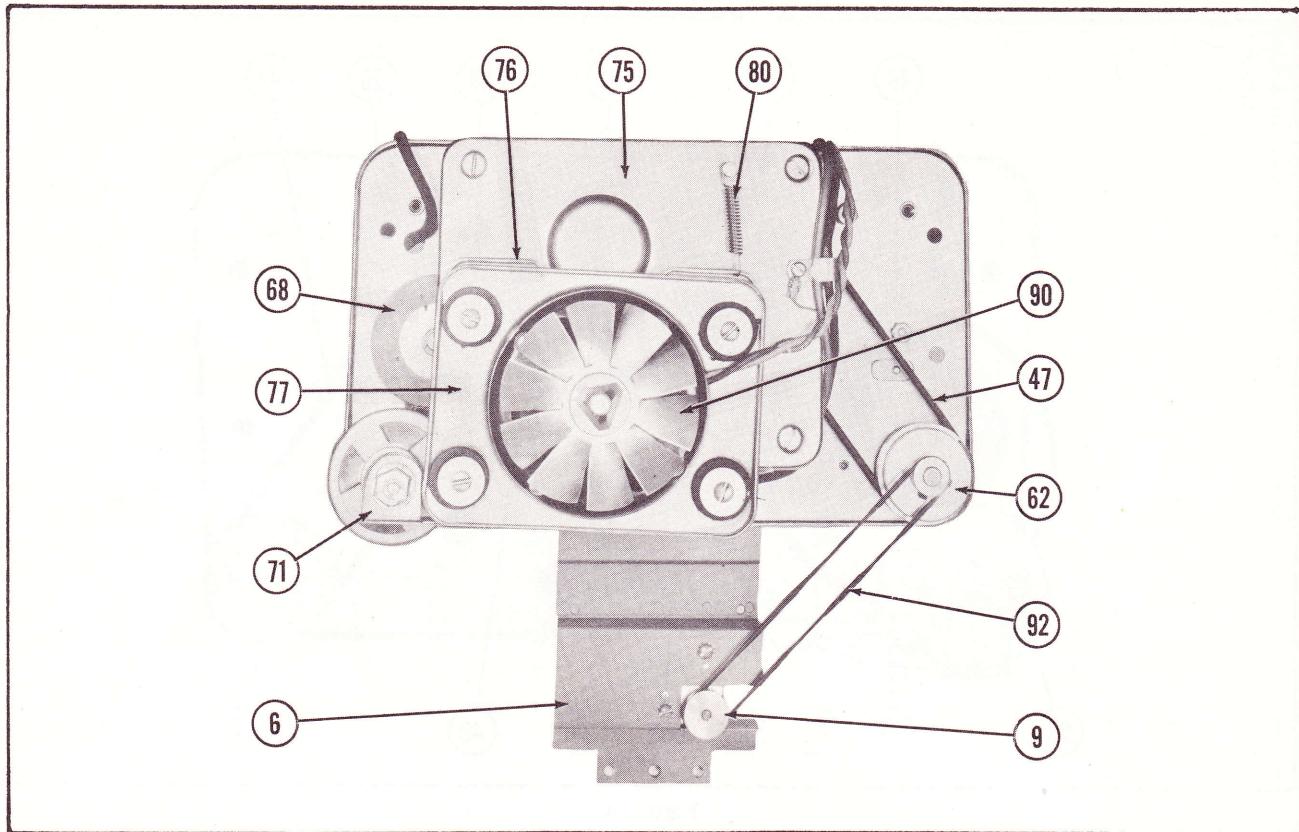


Figure 3

3. Insert the free end of the tape into one of the three radial slots in the hub of the empty reel. Turn the reel several turns until the tape is secured to the reel and all slack is taken up between reels.

To Record From Microphone-

Remove the microphone from its compartment and plug it into the receptacle marked "Microphone". This automatically disconnects the loudspeaker in the case and eliminates any possibility of feedback or howling. Depress simultaneously the selector keys marked "Micro" and "Record" whereupon the Magic Eye "Level Indicator" will glow. Next, slide the "Bass" switch to "in" or "out" depending on the type of response desired. With the switch at the "out" position the bass notes are diminished. The "Treble" control is inoperative during all recording functions and, therefore, requires no adjustment. Now, speak or play into the microphone while turning up the "Volume" control until the Magic Eye "Level Indicator" almost flickers shut. Hold down the "Micro" and "Record" keys while turning the Tape Motion Control (2) to the "Forward" position and the recording is in process.

To Record From Radio Or TV-

Remove the Radio Connecting Cord from its storage compartment. It has a black bakelite plug on one end while the opposite end splits into an insulated wire and a braided wire each equipped with an eyelet lug. The insulated wire should be connected to the insulated voice coil terminal of the radio or TV speaker and the braided wire should be connected to the grounded loudspeaker terminal. For convenience, two alligator clips have been furnished with the DuKane. Insert the black plug into the receptacle marked "Auxiliary",

Depress simultaneously the selector keys marked "Aux" and "Record". Slide the "Speaker" switch up to the "on" position and the "Bass" switch "in" or "out" as desired. Advance the recorder "Volume" control to 5 and turn up the volume on the radio or TV until the Magic Eye "Level Indicator" almost closes. Hold down the "Aux" and "Record" selector keys while turning the Tape Motion Control (2) to "Forward" and the recording is in process.

To Record From Phonograph-

The Phono Connecting Cord is stored in the same place and is similar to the Radio Connecting Cord except that it is equipped with a nickel plated plug. Connect the insulated wire of the Phono Connecting Cord to the insulated wire from any crystal or high impedance pickup cartridge and connect the braided wire to the outer braid of the lead from the pickup cartridge. Insert the plug into the receptacle marked "Auxiliary". Slide the "Speaker" switch up to the "on" position and set the "Bass" switch at "in" or "out" as desired. Depress simultaneously the "Aux" and "Record" selector keys and advance the "Volume" control until the Magic Eye "Level Indicator" almost closes when the phonograph is operating. While holding down the "Aux" and "Record" keys turn the Tape Motion Control (2) to "Forward" and the recording is in process.

Dual Track Recording-

The DuKane is a dual track recorder. Only half the tape width is used for each recording track. To record the second track, remove the full reel from the left hand spindle, turn it over and place it on the right hand spindle. Place the empty reel on the left hand spindle and proceed with the recording as before.

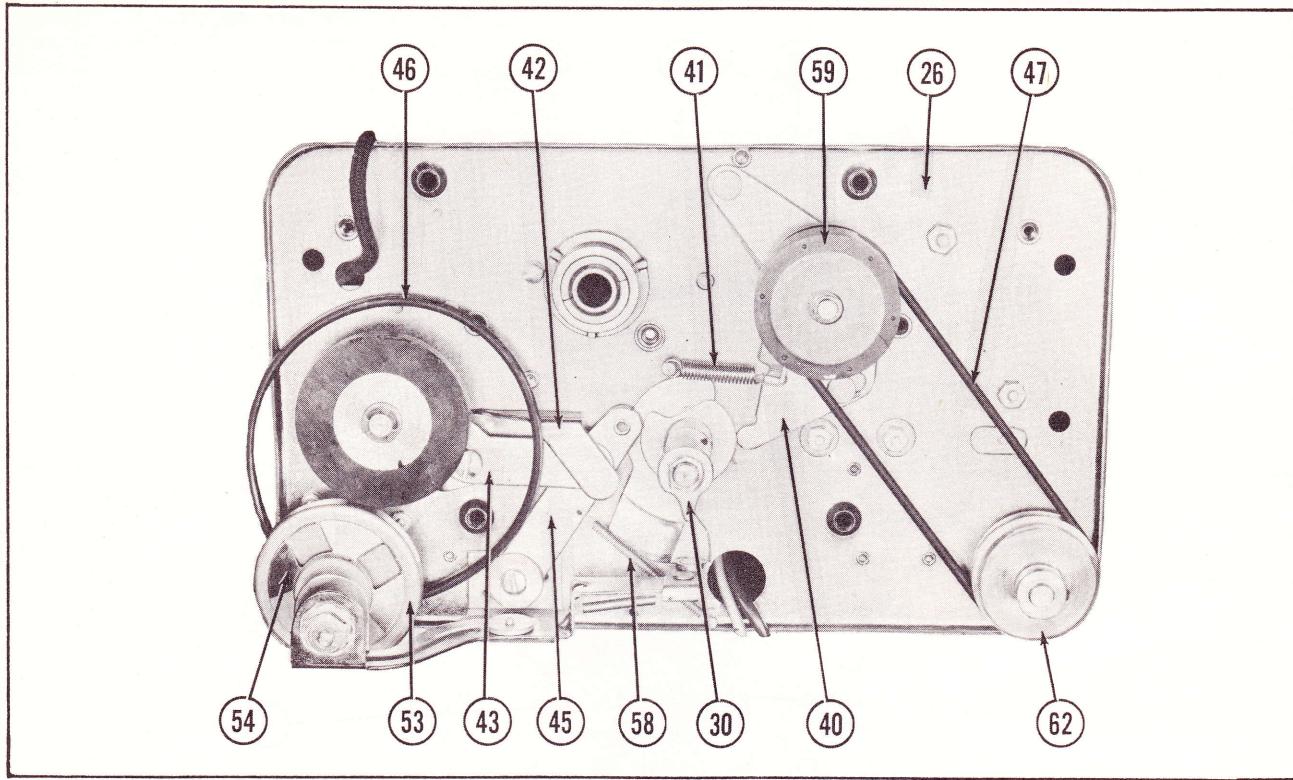


Figure 4

To Play A Recording-

Place a reel of previously recorded tape on the right hand spindle and an empty reel on the left hand spindle. Thread the tape as described under "Threading The Tape". Slide the speaker switch up and the "Bass" switch "in" or "out" as desired. Depress the "Play" selector key and simultaneously turn the Tape Motion Control to "Forward". Adjust the Volume and Treble controls to suit.

Fast Forward-

High-speed forward can be obtained by turning the Tape Motion Control to Fast Forward. This is used primarily in locating a desired portion of a recording in a few seconds.

NOTE: To eliminate any possibility of tape breakage, the Tape Motion Control will not go from the "Fast Forward" position to the "Forward" position without first being returned to the "Stop" position.

Tape Counter-

The Tape Counter can be used in locating various selections on a reel of tape. The counter should be set at zero when a reel of tape is placed on the right hand spindle and the number appearing on the counter at the end of each selection should be noted on the back of the reel carton along with the title of the selection.

To Splice Tape-

1. On the case is mounted a tape splicer for cutting the tape diagonally.

2. Place the two pieces of tape, glossy side up, in the channel so the two broken ends overlap.

3. Run a razor down the groove that crosses the channel at an angle, making sure to cut both pieces of tape.

4. Using a piece of splicing tape, fasten the two ends together while still in the channel. Trim off excess splicing tape.

To Edit Tape-

NOTE: Since it is impossible to edit and splice one track without affecting the other, recordings which are to be edited should be limited to one track only.

To edit, play the recording and cut the tape at the end of the portion you wish to remove. Rewind the tape on an empty reel and cut the tape at the start of the section you wish to remove. Splice together the ends of the remaining tape. For precise editing, listen to the recording and by holding the right hand reel stop the tape at the exact place you wish to edit. Turn the Tape Motion Control to "Stop" and cut the tape at the "Edit Here" mark.

To Monitor With Headphones-

Using a standard two circuit plug, connect any type of high impedance headphones into the receptacle marked "Phones". The headphone leads should connect to the tip and shaft of the plug.

To Use As A Public Address System-

The DuKane can also be used as a public address system. Insert the microphone into the receptacle marked "P. A. Jack" and depress the "Play" selector key. The "Volume" control as well as both "Treble" and "Bass" tone controls are operative so that any volume level and tone characteristic is available.

To Use An External Speaker-

An external speaker or speakers can be plugged into the 8 ohm "Auxiliary Speaker" receptacle using a standard two circuit phone plug whereupon the speaker in the case is disconnected.

Erasing Recorded Material-

As a new recording is made, any previously recorded material is erased from the track that is being recorded on; therefore, no special step is necessary to erase recordings before new recordings are made. The recording on the other half of the tape is not affected. If you wish to erase a recording without recording anything else on the tape, proceed as under "To Record From Microphone" except turn the "Volume" control to "1" and do not plug in the microphone.

ADJUSTMENTSPlay-Record And Erase Head Adjustment-

The record-erase head and bracket assembly (10) has been pre-aligned at the factory and should not be tampered with. When ordering a replacement, both heads mounted and pre-aligned will be supplied by the manufacturer.

Take-Up Spindle Adjustment-

The take-up spindle (13) runs in a single bearing and, therefore, appears to be quite wobbly when compared with the relatively rigid rewind spindle (15). The take-up spindle (13) has two principle functions. These are to take-up the tape after it has passed the heads or, to advance the tape at a high rate of speed when selector control knob (2) is set in "Fast Forward" position.

The diameter of the take-up reel is constantly changing as the tape builds up on the spool and, it is therefore necessary for the reel to rotate at a constant diminishing speed. In this recorder this is accomplished by the use of a slipping clutch. The upper clutch plate (48) is coupled to the flywheel (66) by take-up belt (46) and, power is applied in all positions of the selector control knob (2) except "Stop".

When selector control knob (2) is set in the "Play" position, the clutch actuating arm (71) raises the fast forward drum assembly (53) and, applies pressure against the upper clutch plate (48), thus, transmitting power from the upper clutch plate to the fast forward drum which is coupled to the take-up shaft and bearing assembly (13) through spring washer (54).

The adjustment of the take-up action should be such that tape will not spill from a full take-up reel when the selector control (2) is turned to "Play" from "Stop". The amount of pressure applied against the upper clutch plate (48) by the fast forward drum (53) is controlled by the adjustment of take-up nut (55). It is essential that this pressure never be greater than necessary to keep tape from spilling from a full reel.

When selector knob (2) is turned to "Fast Forward", idler wheel (67) couples flywheel (66) to fast forward drum (53).

When the "Fast Forward" is working properly, it is possible to hold the take-up shaft (13) without stalling the motor and flywheel. But there must be sufficient torque for the "Fast Forward" to operate reliably, even when the take-up reel is full of tape.

The fast forward arm bracket (43) on which the fast forward idler (67) is mounted, and spring washer (54), which controls fast forward action have been set and locked at the factory. It is advisable to avoid changing either one if possible.

TROUBLESFails To Erase And Record-

1. Pressure pad arm actuating spring (10B) broken, resulting in the tape not being held in contact with the heads.

No Drive In "Forward" Position-

1. Capstan roller spring (38) loose or broken resulting in the capstan roller (16) not being held in contact with the capstan shaft.

2. Grease or oil on motor pulley and flywheel. Clean with alcohol.

No Drive In "Rewind" Position-

1. Rewind belt (47) loose. Replace belt.

2. Grease or oil on rewind belt (47). Clean belt and pulley grooves with alcohol.

3. Grease or oil on motor pulley, flywheel, and rewind drive wheel (59). Clean driving surfaces with alcohol.

No Drive In "Fast Forward" Position-

1. Take-up spindle assembly not adjusted properly. See "Take-Up Spindle Adjustment".

2. Grease or oil on motor pulley, flywheel and fast forward drive tire (68). Clean driving surfaces with alcohol.

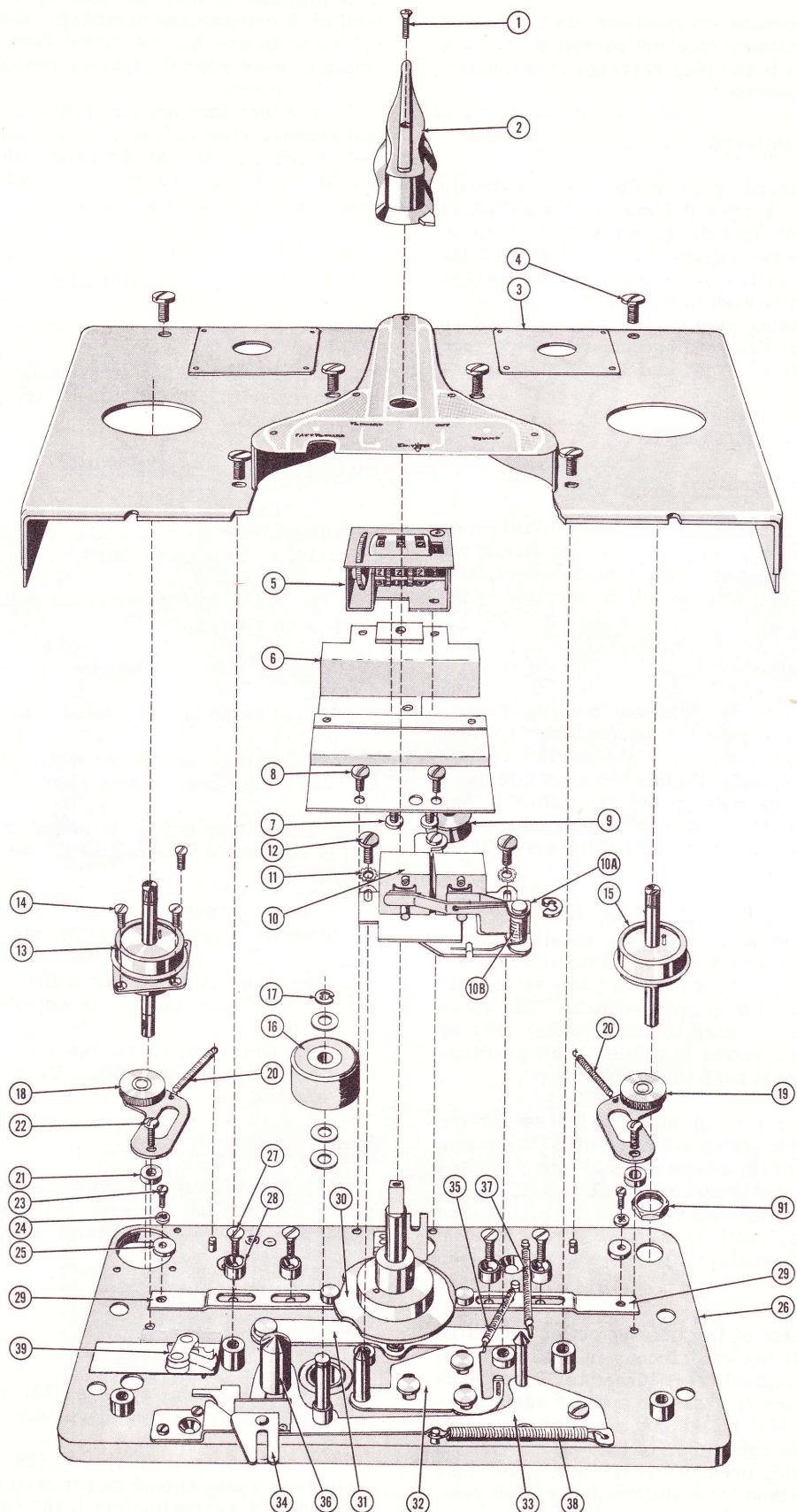
Speed Variation or "Wow"-

1. Check capstan shaft, capstan roller (16), motor pulley, and flywheel (66) for oil or foreign material. Clean these surfaces with alcohol.

Tape Overruns Or Spills
When Changing Position Of
Selector Control Knob (2) -

1. Brake arm springs (20) loose or broken. Replace defective spring or springs.

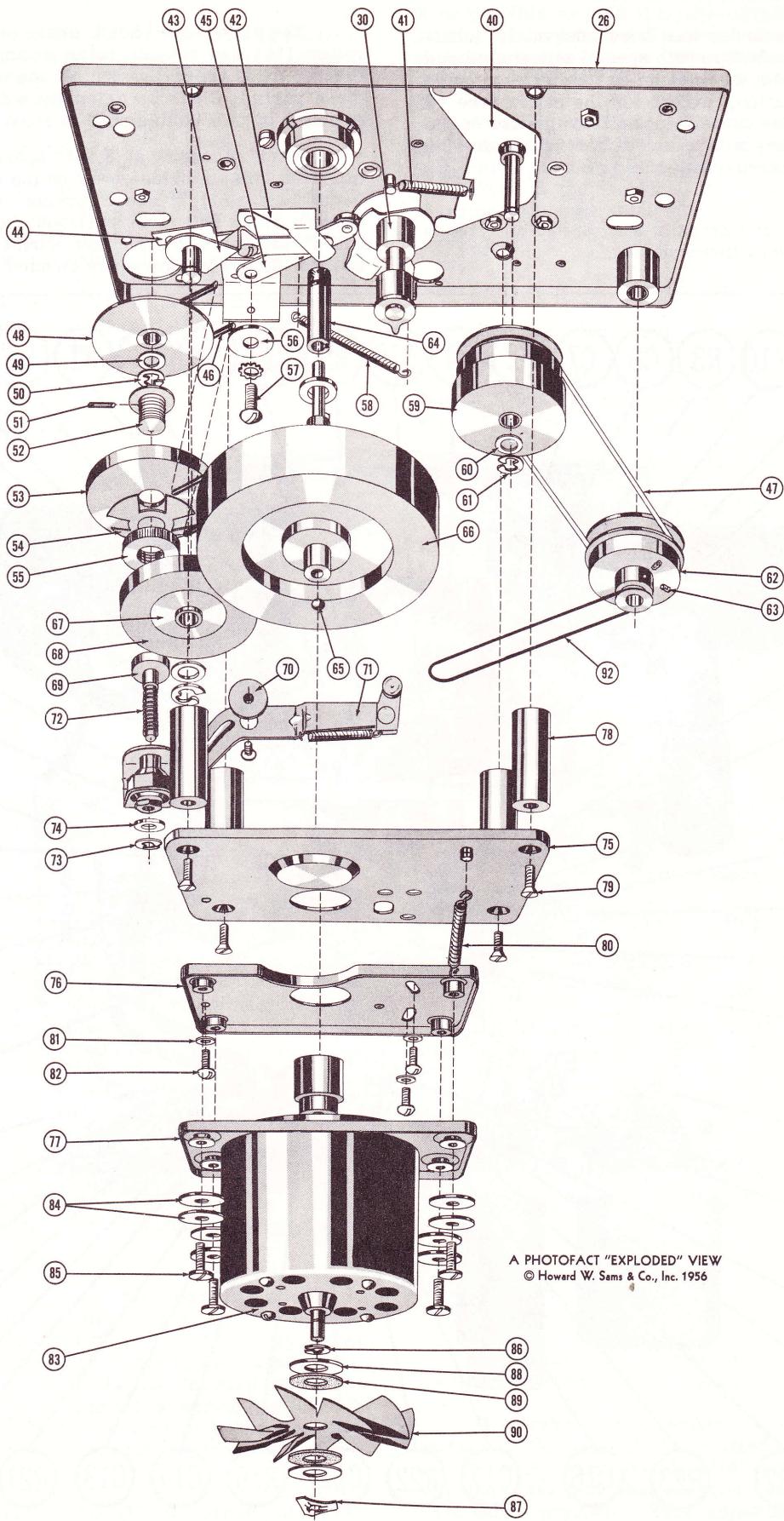
2. Brake arm assembly (18 or 19) out of adjustment. These should be adjusted so that there is a clearance of approximately $1/16"$ between the brake tire and brake arm when selector control (2) is in the "Forward" position. This adjustment is made by loosening screw (23) and turning eccentric washer (25) to the proper position.



A PHOTOFAC "EXPLODED" VIEW
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Figure 5. Exploded View Of Parts Above Baseplate.

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LUBRICATION

1. This recorder has been adequately lubricated during manufacture with special silicone oil and greases and should, with normal usage, never require additional lubrication, except for the motor (see #2 below). Do not use conventional oils or grease on the mechanism for they will "creep" to the rubber driving parts and cause irreparable damage.

2. Place 2 or 3 drops of S.A.E. #20 oil on each motor bearing every three months.

CLEANING

The play-record head, erase head, and capstan roller (16) are subject to an accumulation of tape coating oxide which is worn off the tape as it passes these parts. Clean occasionally with a small piece of cotton or soft cloth dipped in alcohol.

After recording at 3 3/4" speed there will be a minute coating of oxide power on the capstan. Before installing the 7 1/2" speed capstan, clean the 3 3/4" capstan with a soft cloth or tissue. Occasionally the 3 3/4" capstan and the inner surface of the 7 1/2" capstan should be thoroughly cleaned with alcohol.

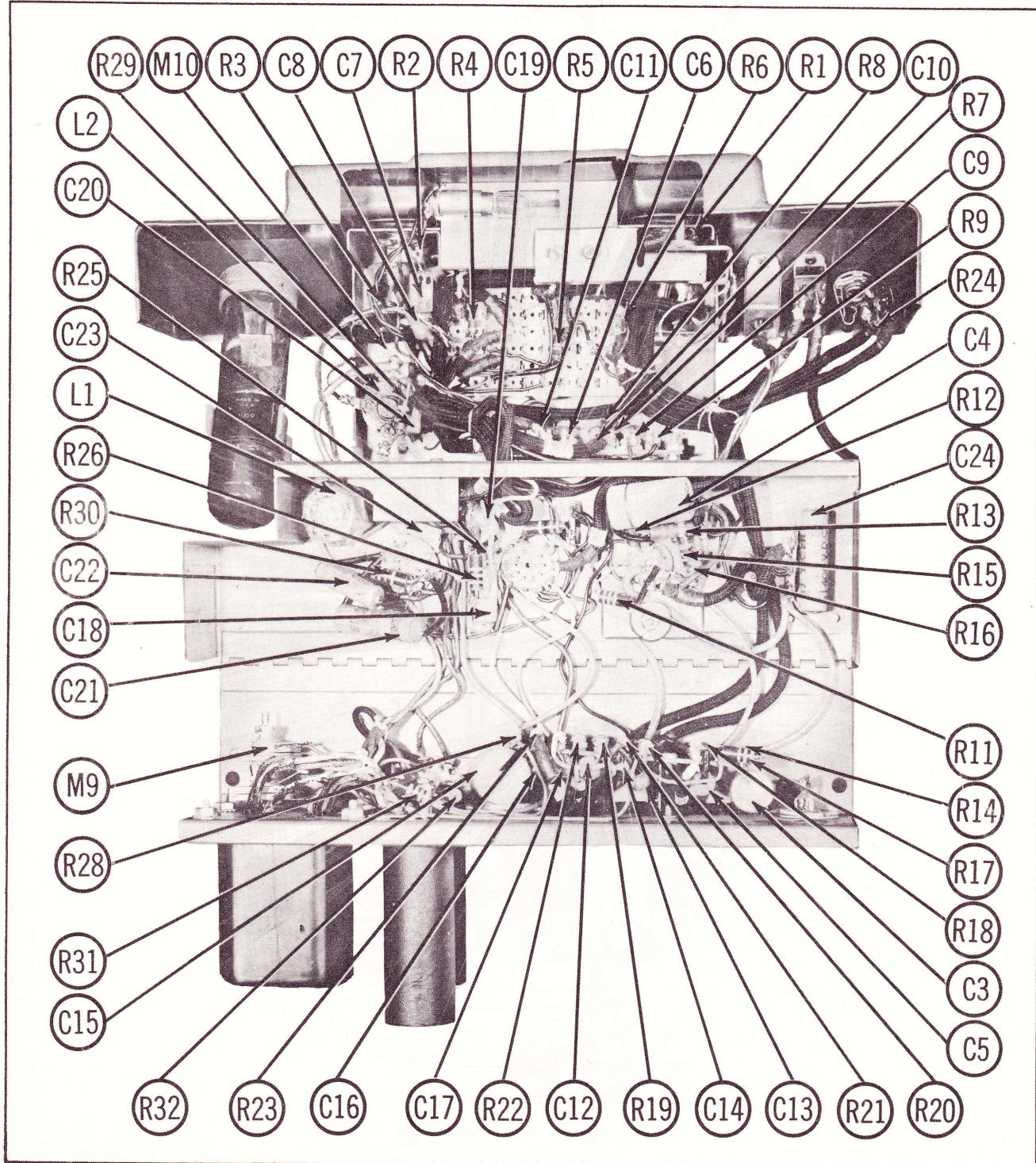


Figure 7. Bottom View Of Model 1A365-A Pre-Amp.

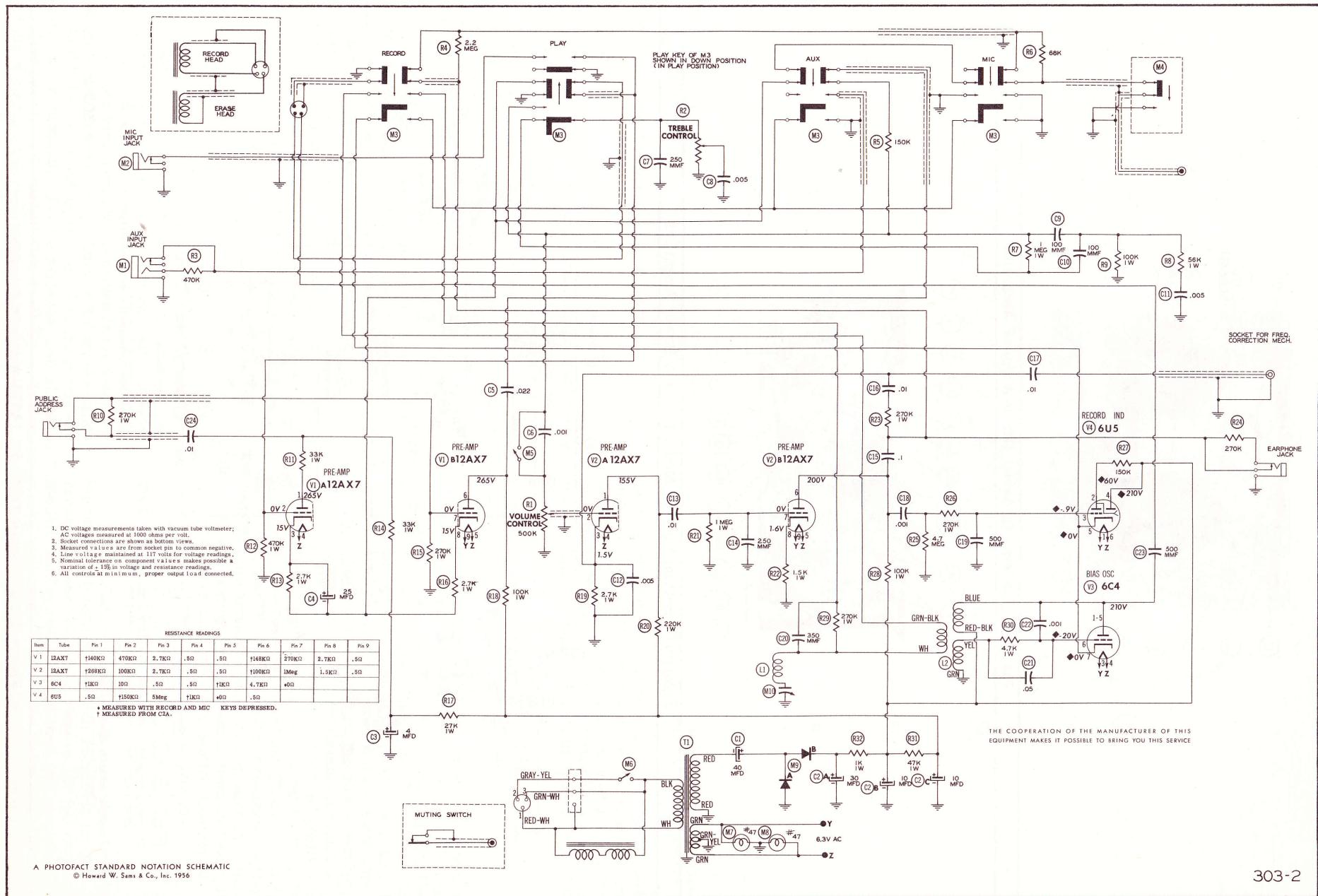


Figure 8. Schematic Of Model 1A365-A Pre-Amp.

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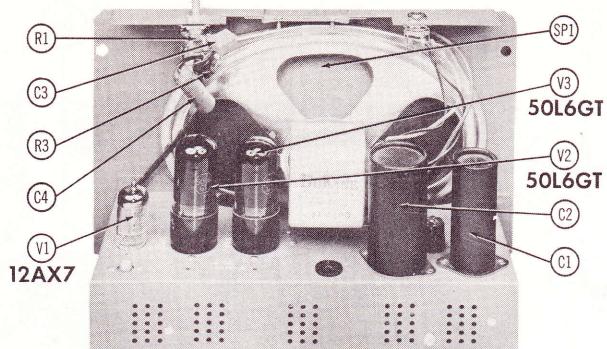


Figure 9. Top View Of Model 1A370-A Power Amplifier.

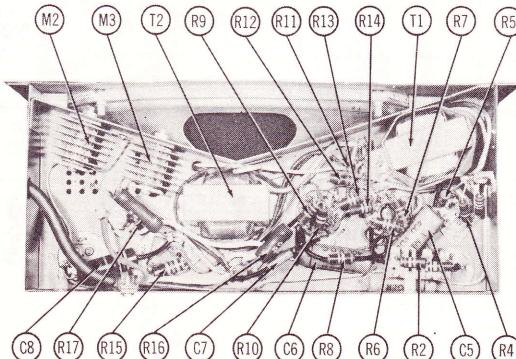


Figure 10. Bottom View Of Model 1A370-A Power Amplifier

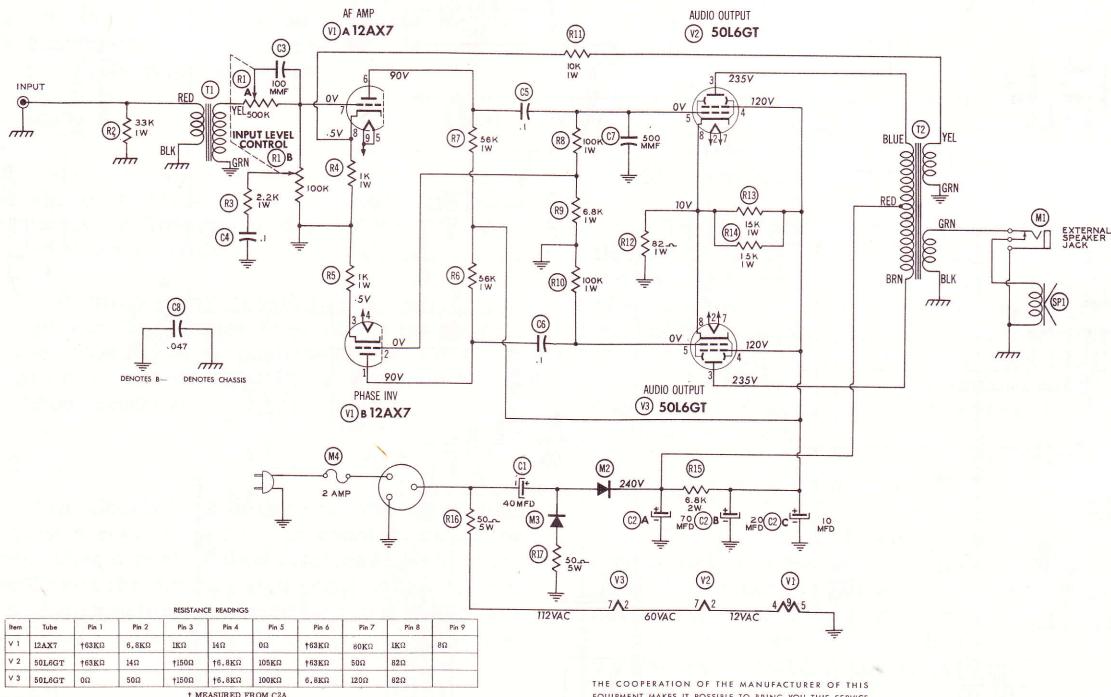


Figure 11. Schematic Of Model 1A370-A Power Amplifier

ELECTRICAL PARTS LIST

Model 1A370-A Power - Amp.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
V1	262-12AX7	12AX7 AF Amp-Phase. Inv.	R6	600-0116-563	Resistor, 56K@ 1 W.
V2	262-50L6-GT	50L6GT Audio Outputs	R7	600-0116-563	Resistor, 56K@ 1 W.
V3	262-50L6-GT	50L6GT Audio Outputs	R8	600-0116-104	Resistor, 100K@ 1 W.
C1	199-2025-406	Elect. Cap., .40MFD. @ 250V.	R9	600-0116-682	Resistor, 6.8K@ 1 W.
C2A	199-2935	Elect. Cap., .70MFD. @ 350V.	R10	600-0116-104	Resistor, 100K@ 1 W.
C2B		Elect. Cap., .20MFD. @ 350V.	R11	600-0116-103	Resistor, 10K@ 1 W.
C2C		Elect. Cap., .10MFD. @ 350V.	R12	600-0116-820	Resistor, 82Ω@ 1 W.
C3	199-3001-101	Cap. Ceramic, 100MMF@ 500V.	R13	600-0116-153	Resistor, 15K@ 1 W.
C4	199-4021-104	Cap. Paper, .1MFD@ 400V.	R14	600-0116-153	Resistor, 15K@ 1 W.
C5	199-4021-104	Cap. Paper, .1MFD@ 400V.	R15	600-0153-682	Resistor, 6.8K@ 2W.
C6	199-4021-104	Cap. Paper, .1MFD@ 400V.	R16	600-1008-500	Resistor, 50Ω@ 5W.
C7	199-3001-501	Cap. Ceramic, 500MMF@ 500V.	R17	600-1008-500	Resistor, 50Ω@ 5W.
C8	199-4037-473	Cap. Molded, .047MFD@ 600V.	T1	710-1011	Input Transformer
R1A	601-90	Room Balance Control, 500K	T2	710-2048	Output Transformer
R1B		Room Balance Control, 100K	SP1	S12100	Speaker
R2	600-0116-333	Resistor, 33K@ 1 W.	M1	415-4	Jack Closed Circuit
R3	600-0116-222	Resistor, 2.2K@ 1 W.	M2	595-11	Selenium Rect., 150M. A.
R4	600-0116-102	Resistor, 1K@ 1 W.	M3	595-11	Selenium Rect., 150M. A.
R5	600-0116-102	Resistor, 1K@ 1 W.	M4	320-835-0200	Fuse 2 Amp.

ELECTRICAL PARTS LIST

Model 1A365-A Pre-Amp.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
V1	262-12AX7	12AX7 Pre-Amp.	R9	600-0116-104	Resistor, 100K@ 1 W.
V2	262-12AX7	12AX7 Pre-Amp.	R10	600-0080-274	Resistor, 270K@ 1/2 W.
V3	262-6C4	6C4 Bias - Osc.	R11	600-0116-333	Resistor, 33K@ 1 W.
V4	262-6U5	6U5 Record Indicator	R12	600-0116-474	Resistor, 470K@ 1 W.
C1	199-2025-406	Elect. Cap., .40MFD. @ 250V.	R13	600-0116-272	Resistor, 2.7K@ 1 W.
C2A	199-2930-00	Elect. Cap., .30MFD. @ 350V.	R14	600-0116-333	Resistor, 33K@ 1 W.
C2B		Elect. Cap., .10MFD. @ 350V.	R15	600-0116-274	Resistor, 270K@ 1 W.
C2C		Elect. Cap., .10MFD. @ 350V.	R16	600-0116-272	Resistor, 2.7K@ 1 W.
C3	199-2037-405	Elect. Cap., .4MFD. @ 450V.	R17	600-0116-273	Resistor, 27K@ 1 W.
C4	199-2001-256	Elect. Cap., .25MFD. @ 25V.	R18	600-0116-104	Resistor, 100K@ 1 W.
C5	199-4037-223	Cap. Molded, .022MFD. @ 400V.	R19	600-0116-272	Resistor, 2.7K@ 1 W.
C6	199-4030-102	Cap. Paper, .001MFD. @ 600V.	R20	600-0116-224	Resistor, 220K@ 1 W.
C7	199-3001-251	Cap. Ceramic, 250MMF@ 500V.	R21	600-0116-105	Resistor, 1 Meg@ 1 W.
C8	199-4030-502	Cap. Paper, .005MFD. @ 600V.	R22	600-0116-152	Resistor, 1.5K@ 1 W.
C9	199-3001-101	Cap. Ceramic, 100MMF@ 500V.	R23	600-0116-274	Resistor, 270K@ 1 W.
C10	199-3001-101	Cap. Ceramic, 100MMF@ 500V.	R24	600-0080-274	Resistor, 270K@ 1/2 W.
C11	199-4030-502	Cap. Paper, .005MFD@ 600V.	R25	600-0080-475	Resistor, 4.7Meg@ 1/2 W.
C12	199-4030-502	Cap. Paper, .005MFD@ 600V.	R26	600-0116-274	Resistor, 270K@ 1 W.
C13	199-4020-103	Cap. Paper, .01MFD@ 400V.	R27	600-0080-154	Resistor, 150K@ 1/2 W.
C14	199-3001-251	Cap. Ceramic, 250MMF@ 500V.	R28	600-0116-104	Resistor, 100K@ 1 W.
C15	199-4021-104	Cap. Paper, .1MFD @ 400V.	R29	600-0116-274	Resistor, 270K@ 1 W.
C16	199-4020-103	Cap. Paper, .01MFD @ 400V.	R30	600-0116-472	Resistor, 4.7K@ 1 W.
C17	199-4020-103	Cap. Paper, .01MFD @ 400V.	R31	600-0116-473	Resistor, 47K@ 1 W.
C18	199-4030-102	Cap. Paper, .001MFD @ 600V.	R32	600-0116-102	Resistor, 1K@ 1 W.
C19	199-3001-501	Cap. Ceramic, 500MMF@ 500V.	T1	710-4076	Power Transformer
C20	199-3001-351	Cap. Ceramic, 350MMF@ 500V.	L1	393-3	RF. Coil, 65MH.
C21	199-4021-503	Cap. Paper, .05MFD @ 400V.	L2	535-4	Bias Osc. Coil
C22	199-4030-102	Cap. Paper, .001MFD @ 600V.	M1	415-7	Aux. Jack 3CCT
C23	199-3001-501	Cap. Ceramic, 500MMF@ 500V.	M2	415-4	Mic. Jack Closed CCT.
C24	199-4020-103	Cap. Paper, .01MFD @ 400V.	M3	680-163	4 Plunger Switch Assy.
R1	601-61	Volume Control, 500K	M4	680-167	Speaker Switch S. P. D. T.
R2	601-61	Treble Control, 500K	M5	680-23	Out-Bass-In S. P. S. T. Switch
R3	600-0080-474	Resistor, 470K@ 1/2 W.	M6	680-165	On-Off S. P. S. T. Switch
R4	600-0080-225	Resistor, 2.2Meg. @ 1/2 W.	M7	456-1	Pilot Lamp #47
R5	600-0080-154	Resistor, 150K@ 1/2 W.	M8	456-1	Pilot Lamp #47
R6	600-0080-683	Resistor, 68K@ 1/2W.	M9A	595-10	Selenium Rect.
R7	600-0116-105	Resistor, 1Meg@ 1W.	M9B		Selenium Rect.
R8	600-0116-563	Resistor, 56K@ 1 W.	M10	199-9025	Variable Cap. Bias Adj.

DUKANE
MODEL 11A200

MECHANICAL PARTS LIST

"The part numbers listed here are for identification purposes when writing or talking about the mechanism". In some cases a manufacturer will supply sub-assemblies rather than individual parts for service replacement. Write DuKane for their current 'Replacement Assembly Parts List for DuKane Drive Mechanism Model #22A10".

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	924-101-0406	#4-40 x 3/8" Oval Phillips Head Screw	43	115-815-00	Fast Fwd. Arm Staking Assy.
2	440-76-01	Knob- Selector Control, Black Nylon	44	147-539-01	Fast Fwd. Mounting Bracket
3	567-224-11	Plate-Rear Top, Royalite	45	108-39-01	Fast Fwd. Lever Arm
4	903-101-0806	#8-32 x 3/8 St. Side Binding Hd. Slotted Screw	46	152-10-00	Take-Up Belt
5	213-1-00	Counter	47	152-2-01	Rewind Belt
6	147-534-04	Counter Bracket	48	115-579-04	Upper Clutch Plate Assy.
7	903-103-0604	#6-32 x 1/4 " Straight Side Binding Slotted Hd. Screw	49	750-99-00037	Washer
8		Counter Bracket Mounting Sc.	50	750-99-00018	Truarc Washer 5133-31
9	578-18-01	Counter Pulley 3/4" Brass	51	564-85-03	Pin
10	115-574-00	Record-Erase Hd. & Bracket Assembly	52	384-5-06	Clutch Plate Hub(Lower)
10A	115-569	Pressure Pad Arm Assembly	53	115-812-01	Fast Fwd. Drum Assembly
10B	650-53	Pressure Pad Arm Actuating Assembly	54	750-99-00042	Spring Washer
11	466-014-08	#8 Lockwasher	55	530-99-00059	Take-Up Nut
12	903-103-0804	#8-32 x 1/4 Bind. Hd. M. Sc.	56	750-01-00024	Washer
13	115-578-07	Take-up Shaft & Bearing Assy.	57	903-103-0804	#8-32 x 1/4 Binder Hd. Screw
14	902-103-0406	#4-40x 3/8 Flat Hd. Screw	58	650-54-00	Brake Arm Spring
15	115-565-04	Rewind Shaft Assembly	59	115-537-04	Rewind Drive Assembly
16	612-2-07	Capstan Roller	60	750-99-00035	Washer
17	750-99-00007	Truarc Washer#5133-31	61	750-99-00007	Truarc Washer #5133-31
18	115-586-04	Brake Arm (Left)	62	578-5-02	Rewind Shaft Pulley
19	115-587-04	Brake Arm (Right)	63	942-141-0803	#8-32x 3/16" Hex. Socket Hd. Sc.
20	650-54-00	Brake Arm Spring	64	630-2-02	Capstan Sleeve
21	634-47-02	Brake Arm Spacer 3/8" Dia.	65	137-14-00	Ball Bearing-156" Dia.
22	901-103-0806	#8-32 x 3/8 Round Hd. Screw	66	115-566-03	Flywheel Assembly
23	905-103-0604	#6-32 x 1/4 Fil. Hd. Screw	67	758-10-01	Fast Fwd. Wheel(Metal only)
24	466-014-06	#6 I. T Shakeproof Lockwasher	68	758-11-01	Fast Fwd. Wheel(Rubber Tire)
25	750-99-00020	Eccentric .074" Washer	69	115-795-01	Clutch Actuating Pin Assy.
26	567-167-09	Top Plate	70	670-30-03	Clutch Arm Stud
27	902-103-0609	#6-32 x 9/16" Flat Hd. Screw	71	115-580-02	Clutch Actuating Arm Assy.
28	634-112-02	Brake Slide Spacer	72	650-59-00	Clutch Adjustment Spring
29	567-164-03	Brake Slide Plate	73	750-99-00007	Truarc Washer #5133-18
30	115-581-03	Control Shaft Assembly	74	750-01-00021	Washer
31	115-588-03	Detent Arm Assembly	75	567-170-03	Bottom Plate
32	115-591-01	Detent Slide Plate Assembly	76	567-169-03	Motor Swing Plate
33	115-582-04	Capstan Roller Arm Assembly	77	567-166-05	Motor Mounting Plate
34	179-10-02	Switch Release Cam	78	634-41-01	Main Plate Spacers
35	650-58-00	Detent Slide Plt. Spring	79	902-103-4006	#10-32 x 3/8 Flat Hd. Screw
36	564-44-04	Tape Guide Pin	80	650-61-00	Swing Plate Spring
37	650-62-00	Detent Arm Spring	81	750-01-00021	Washer
38	650-55-01	Capstan Roller Spring	82	901-103-4006	#10-32 x 3/8 Round Hd. Screw
39	680-195-01	Speed Equalization Switch	83	115-816-00	Motor & Drive Roller Assy.
40	115-585-01	Rewind Arm Assembly	84	750-01-00024	Washer
41	650-56-00	Rewind & Fast Fwd. Spring	85	903-103-0812	#8-32 x 3/4 Binder Hd. Screw
42	147-553-02	Fast Fwd. Assy. Hanger	86	750-99-00018	Truarc Washer #5133-31
			87	750-99-00019	Truarc Washer #5305-31
			88	750-01-00023	Washer
			89	750-51-00005	Felt Washer
			90	286-2-00	Fan
			91	530-99-00035	Hex. Nut
			92		Counter Drive Belt